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# BRITISH TARANTULA SOCIETY COMMITTEE

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Front cover: *Hemirrhagus reddelli* female, Rick West

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# !!! STOP PRESS !!!

After many years of sterling service to the society, Ann & Frank have decided to retire from the committee. I'm sure I speak on behalf of the entire membership when I thank them for their longstanding commitment to our society.

As a result the **BTS has a NEW HEAD OFFICE**. From now on all membership queries and payment should be directed to Angela Hale - our new Secretary.

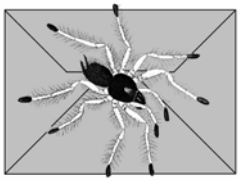
Carl Portman also has a new position on the committee - Publicity Officer. We shall hear more about this in the next issue.

Remember the BTS Annual Exhibition is just around the corner, so make sure you chalk it down in your calendar (details in the back of this journal). If you are entering livestock in the competition it is vital they are presented in secure, clear plastic boxes without substrate. Entrants submitted in glass tanks or with substrate will not be accepted into the competition.

Username: chordatus
Password: versicolor

**NOTE**: The committee are happy to provide advice, but please restrict telephone calls to a reasonable time of the day. Do not expect committee members to return your call if they are unavailable – please arrange to call later.

## Letters to the Editor



Dear Editor,

I expect that most of the contemporary readership of the BTS Journal scour it from cover-to-cover like I do, every issue. I also expect that every now and again, they glance at the inside cover and wonder who the heck Roy Dunn is – an Honorary Member yet we have never heard of him!

It is hard to believe it is nearly 20 years since the first BTS Exhibition and meetings – the thought brings back many fond memories. Importantly, those memories create a clear reference point for where the Society was in those days, compared to what it is now. The Journal is the organ that proves what a radical development and improvement has taken place in less than two decades, and it gives me enormous pleasure reading expedition diaries, taxonomic descriptions, earnest observations, and even some of the nonsense spouted by self-claimed experts. It is all good stuff, and long may it continue. I miss the Exhibition, and every year have it marked in my diary, just in case I happen to be in the UK.

I have lived in the US for nearly 8 years now, having left the UK in early '96. I have travelled broadly, and take every opportunity I can to look for spiders, sometimes photographing them, and ever so rarely collecting them. Now when I see them in the wild it feels wrong to displace them – a far cry from my collecting lust of the early 80s.

Living in North Carolina, we only have the almost mythical dwarf tarantula – incredibly rare, incredibly small, incredibly drab, and an incredibly long walk from my house – nearly 250 miles. Still haven't found one. I did however find an *Atypus* in my garden. More correctly my wife Ruth found it. It reminded me of the many hours (we figured it was between 50 and 60) of searching it took Dave Clarkson and myself to find *Atypus affinis* in Buckinghamshire all those years ago, and the euphoria we experienced when we at last found some. I think I even documented the event in the Journal! *Atypus* is Britain's only mygale, if not a theraphosid!

Anyone who does know me knows that my penchant is really for Salticidae – Jumping Spiders. Of course to tarantula enthusiasts they are tiny useless beasts that you need a magnifying glass to even see. I like to think though that there are many more like me who have expanded their interest into the world of araneomorphs in general – they are all simply fascinating.

I must congratulate the existing and expanding Committee for doing a sterling job of keeping the BTS improving – I wish I were there to lend a

hand, or be at an Exhibition and sit mesmerized by one of Andy Smith's accounts of collecting something exotic, while peering through the thick smoke that his pipe used to generate. The amount of captive breeding going on is fantastic – the co-ordination and communication is obviously improved with modern technology.

Last of all I will take the opportunity to use this forum to personally thank John and Kath Hancock (albeit about 15 years late) for the wonderful guidance they provided me as I became interested in all sorts of spiders beyond tarantulas. Their dedication and infectious enthusiasm developed in me such that I have been able to infect other victims over the years, and probably for many more. The BTS is something I have been very proud to be associated with, and from here it looks like going from strength to strength! May we all continue to enjoy it.

Roy Dunn
Honorary Member - roy@fotronix.com

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## One Year as an Arachnoculturalist

**James Barker**

I have always had a deep interest in Natural History and idolised the likes of Messrs Attenborough and Bellamy. One thing that has stopped me from keeping a range of pets is the commitment needed to give them an environment similar, or better, to the one they'd experience in the wild. Animals should a least be happy enough to breed and increase their population in captivity. I also have a low opinion of the pet trade because of the various impacts on the environment.

July 2002

I had been thinking of getting some tarantulas once I found how easy it is to keep a tarantula content. I had been reading up on them for a few months, and checking out various websites during my lunch hours, finding the BTS website a great resource. I had already decided I wanted to start with captive-bred spiderlings. Not only was this cheap, but also environmentally sound.

It was on the BTS website I discovered there was to be an Entomology Show near Lincoln. Having spent months reading about tarantula care, I finally had an opportunity to start a collection. I thought I could go along and see what was there, and had a rough idea which tarantula I should get as a beginner.

My beginner's wish list of captive-bred spiderlings

A Mexican red rump - *Brachypelma vagans* (or a Mexican red knee - *Brachypelma smithi*, though I wanted something that would grow a bit quicker);

or a Brazilian salmon - *Lasiodora parahybana*; or maybe a Trinidad chevron - *Psalmopoeus cambridgei*.

I wanted to see some *Avicularia versicolor* for the first time, but doubted I was ready to start keeping one. I did get a brief glimpse of some, just as somebody bought the remaining few (I got to the show earlier this year!). In the corner of the hall, on a small stall, there were hundreds of film pots. Photocopied care sheets showed them to be red rump and Cameroon red spiderlings. This was a good opportunity to start my collection. These captive-bred spiderlings were only £1 each; I got two of each. Giantspiders.com had some 2-3" Salmons, so at £2 each I got two of them as well. All of a sudden I had six spiders and for only £8. If I was going to feed one spider, I may as well feed six.

Having suddenly become part of the hobby I decided I should join the BTS. I was pleased to find a non-handling policy. I have no reason to put my tarantulas at risk (or myself for that matter). More visits were made to the website, and now I could access the members' pages too. By scouring the Bulletin Board it became clear that there is a healthy trade in spiderlings within the society. Soon I found an advert for some Trinidad chevron spiderlings. This was one of the species I had read up on and thought I could raise without too much trouble. Having no arboreal tarantulas, I thought these would be good for a beginner like myself. I sent off my cheque for £12, to get 2 of Richard Gallon's finest. They arrived before the end of the week, and to my surprise I got three for the price of two.

In my dedication to the hobby, I had been eating vast quantities of sweets for several weeks, just so I had suitable homes for my youngsters. To begin with I released all three spiderlings from their film can into one sweet jar that I had set up with vermiculite, some cork and a piece of broken plant pot. Almost immediately they started to follow each other around the jar. This carried on intermittently for some hours, with every inch of the jar being explored. After a couple of days I had finished setting up the other sweet jars and transferred the chevrons to their own jars. I later read in the BTS Journal (November 2002, 18(1)) that this behaviour is called caravanning, in Martin Nicholas' article on the red rump.

I now had nine tarantulas - I wanted more, but stopped myself from becoming a 'stamp collector'. The spiders I had were plenty to begin with, and would allow me to learn all that I needed to. If things went well I would allow myself to get some more at the 18th BTS Exhibition, in May.

The 18th BTS Exhibition

May 18th soon came round and with all of my spiders thriving I decided to treat myself. I made a deal with my partner I would not get any more than six. Part of

my restriction was to stop my collection getting out of hand before I had the proper facilities of a dedicated spider-room. Part was to stop my girlfriend going mad. In the main I felt I should be more dedicated to a few, rather than having a vast collection. Many of my friends have said that six is too many, but that stands to reason if you do not like spiders. My wish list for the show had moved on from the beginner's stage. Keeping *Avicularia* was now within my capabilities.

Wish list

*Avicularia versicolor*; or cobalt blue - *Haplopelma lividum*; or green bottle blue - *Chromatopelma cyaneopubescens*; or Bolivian blue leg - *Pamphobeteus antinous*; a white knee or red knee and maybe a starburst.

Having done a quick lap of the halls I started to decide what I would get. This was the tricky bit as the choice on offer was fantastic, especially to a beginner like myself. Versicolors were top of my list. I felt I now had the experience to raise some. I found a stall selling spiderlings at £3 each. I got 4 for £10. What next? Some 25-30mm white knees (*Acanthoscurria geniculata*) were going for a fiver each. With much of my quota taken up with four *Avicularia versicolor* I was only able to get one more spider. One left to get - some *Pterinochilus murinus* were £3 each. I was not sure if I should get one as I knew they were more than a little aggressive. I offered £5 for two and this was accepted. Although I had gone over my quota, I rationalised this with the fact that four were the same and I had not exactly broken the bank.

My collection now consisted of 16 spiderlings and sub-adults and at a cost of only £40. The Show was superb and if I had not known what I wanted, or restricted myself to six (OK seven), I could have easily come away with more than I could accommodate. That may happen next year!

Where I am now

I am just in the process of moving house. As soon as I have unpacked and settled in I am planning to start expanding my facilities and collection further.

Current sizes:

My *Psalmopoeus cambridgei*, *Brachypelma vagans* and *Hysterocrates gigas* are all around 3 to 4 inches now. Two of the versicolors did not make it to the next instar and died within a few weeks of the BTS Exhibition. The other two are full of beans (or rather crickets!) and are about 20mm. The *Pterinochilus murinus* are now 25mm and the *Acanthoscurria geniculata* is about 50mm. The Brazilian salmons are now around the 6" mark.

What next

- Setting up permanent display tanks for adults.
- Setting up a dedicated cupboard or room.
- Swapping and selling some of my sub-adults.
- Get more arboreals e.g. Togo starburst, ornamentals, feather leg, sun tiger.
- Learn more about sexing and breeding.

Current wish list
Cobalt blue - *Haplopelma lividum*; green bottle blue - *Chromatopelma cyaneopubescens*; Bolivian blue leg - *Pamphobeteus antinous*; lesser black - *Xenesthis immanis*; Goliath bird eater - *Theraphosa blondi*; Togo starburst - *Heteroscodra maculata*; giant Malaysian sun tiger - *Cyriopagopus thorelli*.

**—o0o—**

## Artificial Incubation and the Care of Nymphs

**Ray Gabriel**

Artificial incubation is not everyone's cup of tea, some people prefer to leave the egg-sac with the female and let her rear it herself, but sometimes with some species it is advisable to remove the egg-sac just in case anything goes wrong.

I am writing this on the day I went to remove my *Poecilotheria smithi* egg-sac; finding it had been eaten after 18 days of incubation (I wish I had removed it earlier). This article is dedicated to all those egg-sacs which have gone the same way.

Constructing an incubator

1. I use a small sized Pet-Pal, not the smallest one, but the size up from that. The rectangular ones are now hard to come by, since the product has been redesigned. However, a similar sized box may work just as well. If using a different make of box try to error on the large side, rather than going for anything smaller. I have found using smaller containers leads to faster growing fungal moulds.

2. Add around 3cm of vermiculite into the bottom of the container. I have found the cheapest place to buy vermiculite is from our local Wilkinson's store (£1.29 for 5 litres). If you cannot find vermiculite, perlite or peat will do the same job. However, peat tends to encourage faster mould growth due to the presence of fungal spores.

3. Moisten the vermiculite with just enough water to ensure all the vermiculite is

damp. Do not flood the vermiculite. If the vermiculite is floating on a layer of water, it is too wet.

4. Using two joined sheets of kitchen-paper, construct a hammock making sure it hangs about 3cm above the vermiculite's surface (**Fig. 1**). Avoid getting the hammock wet and secure it to the Pet-Pal's rim with sticky-tape. I use two sheets of paper for the hammock because I have discovered it keeps the nymphs nearer the moisture. Another advantage of using two sheets is that the hammock can be slit open along the sheet perforations. This is particularly useful if you need to provide extra space for large 'broods' of spiderlings. When incubating tiny young from dwarf-species, I place an additional sheet of kitchen-paper in the centre of the hammock to prevent the young falling between the hammock's central perforations.

5. Seal the lid with tape to prevent the contents drying out (**Fig. 2**). I use brown parcel tape for this, but normal sticky-tape is just as good.

**Figure 1**: Incubator with vermiculite substrate and kitchen-paper hammock.

6. Remove the egg-sac from the female. Use two pairs of forceps for this – one to move the female away from the sac, the other to gently lift the egg-sac out. Feed the female immediately afterwards as this often distracts her from the egg-sac removal.

7. Gently tear open the egg-sac wall and empty the contents onto the hammock (**Fig. 3**). After 21 days most species' eggs will have developed into stage 1 nymphs (nymph-1) or 'eggs-with-legs'. Smaller species, such as *Holothele incei*, can have their sacs removed earlier as their eggs seem to develop faster. Do not worry if you find you still have eggs when opening the sac - these will soon develop (if fertile) into nymph-1. I have removed a 19-day-old *Psalmopoeus pulcher* egg-sac to find eggs; these developed into nymph-1 a week later.

The developmental stage of the eggs will vary with species and incubation temperature. If any eggs are stuck to the egg-sac wall I incubate the whole sac, but usually there is no need to do this. By emptying the egg-sac contents onto the hammock, you relieve the pressure between the eggs – eliminating the need to turn them.

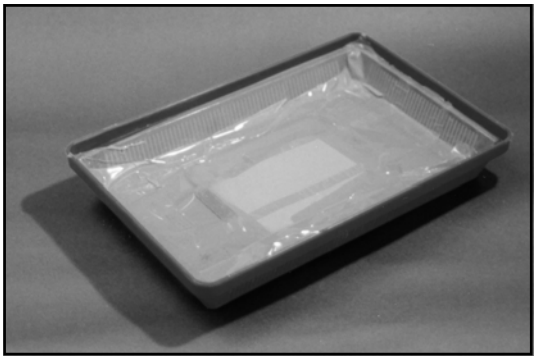

**Figure 2**: Incubator lid taped-up to restrict moisture loss.

8. After the egg-sac has been emptied, place a third sheet of kitchen paper over the top of the container, sandwiching this in place with the tape-sealed lid. This helps absorb any condensation drips which may occur. It also helps contain the spiderlings after they have moulted.

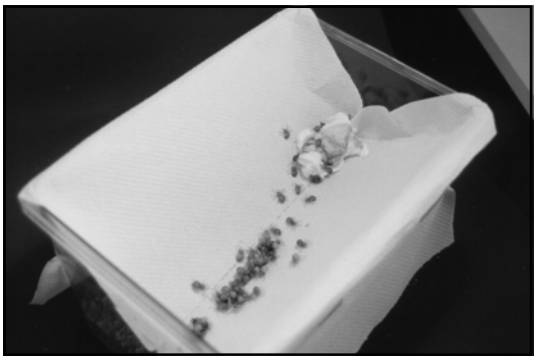

**Figure 3**: Nymphs and egg-sac on incubator hammock.

9. Probably the most important part - the incubator label. A small piece of card or paper can be attached to the incubator so that developmental notes can be recorded (e.g. moulting dates etc.). These data are useful when it comes to writing-up your observations (e.g. for a journal article).

10. I place the incubator in the exact position where the mother's tank was when she produced the egg-sac. This ensures there isn't a marked temperature difference.

Care of nymphs

Some dealers are now selling nymph-2 instead of spiderlings (or sometimes as spiderlings). Some people frown on this practice, but with a lower price tag they are worthwhile buying.

To care for nymphs construct an incubator as above and place in a warm part of a heating-cabinet, spider room or airing cupboard. If you don't have these facilities, or cannot make an incubator, place some peat or vermiculite in the bottom of a clean cricket tub, add some folded or crumpled kitchen paper and liberate the nymphs within. Make sure the ventilation holes in the tub aren't large enough for the nymphs to escape from. You can then place this unit in an adult tarantula's tank until the nymphs develop into spiderlings. The spiderlings can then be potted into separate homes after a couple of days. Please note that *Poecilotheria formosa* can have up to four nymphal stages. The reason for this is unclear, but it might be to delay development until the onset of the rainy season.

The above article is how I incubate my egg-sacs. There are various other ways they can be incubated, some from the day the egg-sac is laid, although I have never tried this. It would be very interesting to hear how other people artificially incubate their egg-sacs and from what stage of development.

Acknowledgements

I would like to thank Andy Matthews, Lesley Hedicker, Chris Sainsbury, Richard Gallon and Ian Prior for their help and advice with constructing incubators and this article.

**—o0o—**

## The Mexican Cave Tarantula

**Rick C. West**

In 1892, Eugene Simon described the world's first troglobiont theraphosid spider, a selenocosmiine, *Orphnaecus pellitus*, from Calapnitan Cave on Luzon Island, Philippines. The only notable cavernicolous feature of this monogenetic species was the reduced (but not absent) eyes. No other morphological aspect appeared unusual as an adaptation to a cave existence.

In 1971, Dr William Gertsch described what I felt was the first truly obligate cavernicolous theraphosine spider, *Aphonopelma stygia*, with its unusually long and thin bony legs, pallid colour, no eye tubercle and vanishing eyes. The immature specimen was found by spelunkers (cave explorers) in the 'dark zone' of one of central Mexico's cave systems.

In 1973, Gertsch examined other cavernicolous theraphosid specimens, from Mexico, but noted placement to a genus was difficult. At that time, Gertsch felt these new species were closest to the theraphosine genus, *Schizopelma*, so described and included *S. elliotti* and *S. reddelli*. *Aphonopelma stygia* was also transferred to this genus at that time.

In 1982, Gertsch formed the new theraphosine genus, *Spelopelma*, and transferred the aforementioned species to it, also adding three more new species under it; *S. grieta, S. mitchelli* & *S. puebla*.

For me, the descriptions of these cavernicolous theraphosid spiders were so bizarre and unlike their epigean (above ground-dwelling) relatives, with their lack of eyes and eye tubercle, very long thin legs, pallid coloration and reduced pubescence, that I desperately wanted to see them for myself. That opportunity came twenty years later.

In February 2002, I convinced a wildlife film producer to take me to one of central Mexico's Oaxacan caves to be the first to film this obligate cave-dwelling tarantula in its natural habitat for part of a one-hour Animal Planet programme entitled – '*Spidermania*' (for the preservation of these tarantula species, exact caves will not be named in this article). This was to be my first real caving exploration and I didn't really know what to expect or what I would find. However, the idea of luring a film crew down to Mexico, then lugging filming equipment deep into the bowels of the earth, only to find nothing, was my greatest fear!

As we drove through beautifully contrasted hills and valleys of sugar cane fields and small villages, a high karst (sounds like something the cat is spitting up) ridge covered in tropical forest and noisy parrots began to stretch across the skyline (**Plate 1**). Beneath this tropical exterior lay a dark world few people had ventured into.

Caves had both spiritual and socio-political importance in early Mesoamerican cultures and were not only considered portals to the underworld, but were also thought to harbour many deities associated with creation, rain, fertility, the earth and powerful shamanic creatures such as the jaguar, owl and spider. Many of the earlier Mesoamerican cultures performed human sacrifices in these caves, as well as making crop offerings in pottery urns, to ensure continued seasonal prosperity. Reportedly, early Mayans believed that when they buried their dead in caves that the spider deity guided their soul through the underground passages safely to 'the other side'.

Land used for cultivation in Mexico is generally privately owned while the government owns land that cannot be cultivated. Logically, no one wants to own land that can't support cultivation. The cave we were headed for was on government land, but the approach was through private land. We had to obtain permission from the local village council to cross their land and access the cave. After a brief exchange of gratuities, and the hire of a couple of local villagers to help carry equipment into the cave, we set off. My adrenalin level was rising … I was so close to finally seeing this unusual theraphosine spider.

Following one of the more experienced spelunkers, familiar with this cave and its dank two miles of passages, we made our way through village gardens of banana and citrus trees. It was mid-February and the air was humid and heavy with floral scents wafting down from the ridge tree canopy. Suddenly, I was face to face with a fissure in a limestone wall (**Plate 2**). When I was told this was the entrance, I thought you've got to be joking … he wasn't! I thought, "How am I going to fit my rather *robust* derriere through that? If I get stuck, I'll never hear the end of it."

**Plate 2**: The narrow cave entrance into a world of darkness and mysterious inhabitants.

As I donned my protective caving wear, and checked my lights, I was told 'at that moment' that it was best to wear brightly coloured clothing in caves as it makes finding the body much easier … now they tell me! What a sight we were (**Plate 3**). I had heard the horror stories about tropical caves harbouring venomous snakes, colonies of bats, and other nasties like the unseen zoonotic disease, histoplasmosis. The latter is a spore that, when inhaled in cave dust, causes symptoms like pulmonary tuberculosis. In a small percentage of those infected, it can be fatal. There have also been reported cases of spelunkers contracting rabies through the inhalation of aerosol urine when a colony of bats

**Plate 1**: Approach to cave through sugarcane fields - photo by West.

**Plate 3**: The 'cavers', yours truly included - photo by Rick West.

is disturbed and take flight. With all this in mind, I entered the netherworld of darkness.

As I made my way though the main water-worn passage, from the light zone to the transitional zone and finally to the dark zone, my fears were soon forgotten at the sight of the spectacular beauty of the cave's interior. Many smaller, yet still passable, marbled corridors branched off into unknown directions. In a cave, you have no concept of time. I think only a spelunker would know the feeling I am referring to. The cave floor was littered with ancient pottery shards, and fragments of human bones, from past Mayan offerings to their cave deities and from the burials of chiefs and nobles. Occasionally, small sparkling pools containing amazing ghost-like eyeless catfish and glassine crayfish broke the cave floor. The cavern walls were like painted marble, while the stalagmites and stalactites sparkled like they were coated in frost. When I shut off my light, I had trouble keeping my balance. The only sounds were my own heart beat and water droplets falling from the roof of the cave into the pools. I was surprised, when I measured the cave's deep interior, to find the temperature was a constant cool 67°F with a relative humidity of 86%. How could any theraphosid spider live in such a cool damp temperature?

Pallid tailless whip scorpions (amblypygids), scorpions, wandering spiders (ctenids), aggregations of harvestmen (opilionids) and small crickets with 12-inch antennae (**Plate 4**) were commonly seen scuttling along the cave walls! There was so much to see yet so little time. As I rounded a corner and headed down another passage, I could smell a strong metallic odour. Checking the source of the smell, my light beam fell on a large patch of cave floor and rocks that were coated in some thick dark viscous fluid, like molasses. As I shone the light up, I saw a colony of resident vampire bats, hanging like black fruits. To my utter repulsion, I suddenly realized the black smelly substance was their digested bloody guano seething with parasitic worms. If I fell into that … just shoot me!

In one of the larger cavernous rooms, I began to investigate small natural holes in the limestone. As I searched along the contoured ledges, I came to a small hole that was littered with the fragmented remains of beetles and crickets. This looked promising. As I prodded the hole, I wasn't prepared for something that rocketed out and up the cave wall like a mouse. As I got closer, I was shaking with excitement when I found myself staring at my first **Spelopelma reddelli* (Gertsch, 1973) [*all *Speloplema* spp. have since been transferred to the theraphosine genus *Hemirrhagus* by Perez-Miles & Locht in 2003]. When this first spider finally settled on the cave's floor, I crawled closer and was thrilled to finally observe a theraphosid with no eye tubercle or eyes. I noted the strong

**Plate 4**: Cave cricket; an abundant food source - photo by Rick West.

**Plate 5**: *Hemirrhagus reddelli* (Gertsch, 1973) female - photo by West.

light of my flashlight didn't disturb it, but then why would it, it had no eyes! The legs were very long and thin and the abdomen lacked the urticatious hairs that are so typical of most New-World theraphosine taxa. The overall body and legs of this species were devoid of a lot of long dense pile and guard hairs. Trichobothria on the legs were unusually long for a theraphosine and readily moved in the air currents made by my excited breathing. The overall design of this cavernicolous species appeared more adapted for the detection of vibrations and fast mobility in this environment devoid of light. None of the other specimens I found gave any threat display when prodded or picked up. There were no excavated burrows found as soil with any depth was lacking in this cave. Retreats were merely natural holes found along cave wall ledges, above any water flow zone, and were absent of any traces of silk.

After images were made, measurements taken, film sequences shot; one additional female specimen was collected and deposited for later identification at Universidad Nacional Autónoma de México, in Mexico City. A single early instar specimen was found which was even more pallid than the adult female. No adult males were encountered at the time of my search, however the fragmented remains of one were found littered just outside one of the female's limestone retreats - possibly the failed result of a an attempted mating.

There is no way to adequately describe to the readers the evolutionary adaptive beauty of these ancient spiders. It was also apparent to me that they had had to evolve from their epigean relatives. How long these theraphosine spiders took to evolve to this lifestyle, devoid of light, is anyone's guess. Some zoologists have stated a cavernicolous adaptation can take as little as ten thousand years while others estimate it takes over one hundred thousand years. However long it took, I didn't care, I was sitting deep in a breathtakingly beautiful and exciting cave in Mexico holding one of the rarest and most bizarre tarantulas on earth. Each cave system in Mexico is like an isolated island; each holds its own distinctly adapted myriad of cavernicolus fauna. There are estimated to be thousands of caves in Mexico and throughout Latin America, each potentially hold their own species of unstudied cave fauna - so much to see and study, so little time!

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# A New Species of the Arboreal Theraphosid, Genus *Poecilotheria*, from Southern India (Araneae, Mygalomorphae, Theraphosidae) With Notes on its Conservation Status

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**Summary**

A new species of theraphosid spider, of the genus *Poecilotheria* is described from southern India. Although having been collected previously and noted on three occasions in the historical record, the spider was erroneously thought to be *P. fasciata* (Latreille, 1804) from the island of Sri Lanka.

The new spider, *Poecilotheria hanumavilasumica* sp. n. is named after the holy site on which it was found and can be readily distinguished from *P. fasciata* by the unbroken black band on the ventral surface of femur IV, the pale colour of the basal half of the metatarsus and the beautiful lilac/violet bloom that is the dominant colour of the ventral surfaces of the posterior legs. In *P. fasciata*, the black band is broken, the metatarsus dark and the dominant colour of the rear legs is a cold blue grey.

*Poecilotheria hanumavilasumica* is thought to have a fragmented distribution in the south-east corner of Southern India – a range that in the past, probably extended south of Madurai and westwards to the foothills of the Western Ghats and the Agastya Malai range. The area, due to improved irrigation, is coming under increasing pressure from rice cultivation and initial surveys would indicate that, although threatened, a handful of functioning colonies precariously survive in the Ramanad desert region. Agriculture in this region was historically limited to subsistence farming and coconut plantations, but proposed Government irrigation projects now threaten this fragile equilibrium and raise the question – is it feasible to establish the largest colony, at the Hanumavilasum Temple site as a Tiger Spider Sanctuary?

The spider has a historical presence on Rameswaram Island and the Adam Bridge causeway and it is plausible that it may be found in the war torn northern region of Sri Lanka – where no collecting has been undertaken for decades.

## Introduction

The genus *Poecilotheria* is made up of arboreal species, which can be found throughout much of Southern India and Sri Lanka and, although wide-ranging, are viewed as increasingly endangered by deforestation and habitat destruction. The genus name, *Poecilotheria*, was first proposed in 1885 by the French arachnologist Eugene Simon, when he discovered that the existing name *Scurria* C. L. Koch, 1850 was occupied by a mollusc genus. Twelve species are to be found in the genus, of which six can be found in India. The key nineteenth century arachnologist who was to undertake much of the work on this genus was Reginald Pocock of the BMNH. Pocock was to describe two of the Sri Lankan species and all six of the Indian: *Poecilotheria formosa* Pocock, 1899, *P. metallica* Pocock, 1899, *P. miranda* Pocock, 1900, *P. regalis* Pocock, 1899, *P. rufilata* Pocock, 1899, *P. striata* Pocock, 1895. The only arachnologist who has since undertaken any extensive taxonomic work on the genus is Peter Kirk who described two additional Sri Lankan species: *P. smithi* Kirk, 1996 and *P. pederseni* Kirk, 2001.

I first came across this previously undescribed species of *Poecilotheria* Simon, 1885

in the BMNH collection in April 2000, amongst material collected by Philip Charpentier in 1993. The material was of particular interest in that, although labelled Southern India, it was obviously very closely related to *Poecilotheria fasciata* (Latreille, 1804) from Sri Lanka. No specific location data were available and despite repeated attempts to contact Mr Charpentier, it was not possible to discover the location of the collection site.

I then recalled receiving an Indian newspaper cutting from Charpentier in October 1993, which contained a report by a Baiju Divakaran on the unusual activities of two foreigners who were collecting tarantula spiders in the Agasthyavanam Biological Park – a protected sanctuary. The report stated that they collected additional material at Chathenkottu near Bonacaud in the Trivandrum district - aided and abetted by a local tribal man, Mr Bhagavan Kani of the Kani hill people. On his return in October, Charpentier published an account in Exothermae (Charpentier, 1996) of his Kerala fieldtrip and the rediscovery of *Poecilotheria rufilata* Pocock, 1899. I could only conclude, for want of any other information, that Charpentier must have discovered the second species in the same region as the *P. rufilata* material, which he had deposited at the BMNH in November 1993 with the additional specimens of *P. rufilata*.

In October 2002, Paul Carpenter and myself spent three weeks with my southern Indian field researcher, Mr Jackin Jayaram scouring the Cardamom Hills and the northern half of the Agastya Malai hill range in search of the new *Poecilotheria* spider, but to no avail. However, we were able discover a number of new locations for *P. rufilata* and extend our knowledge of its range and distribution.

In September 2000, while undertaking additional research in the BMNH archives for my new book on the genus *Poecilotheria*, I had come across correspondence between the BMNH arachnologist Reginald Pocock and a Mr Henderson of the Christian College Madras. In the letter, dated 1900, Henderson refers to having found a *Poecilotheria* spider in the thatch roof of his bungalow while staying on Rameswaram Island. Additional enquiries led to the discovery, that a Zoological Survey of the region, had been undertaken in 1905 by a Mr Annandale, Deputy Superintendent of the Indian Museum Calcutta (Annandale, 1907). The area was known in British India as the Ramanad subdivision of the Madura district. This can be defined today as the area south of present day Madurai – including the lower Vaigai plain and Rameswaram Island. The region is essentially xeric acacia scrubland forest, which due to the very low, uncertain rainfall and high salt and sand content of the soil, is commonly referred to as the south Indian desert. The report is primarily reptile orientated, but does refer to a small collection of arthropods, which included a specimen of *Poecilotheria striata* Pocock, 1895. Annandale wrote, “this magnificent spider is not uncommon in the *Acacia arabica* trees in the region”. At this point it is interesting to note that of all the *Poecilotheria* species in India, *P. striata*, with the distinctive prolateral yellow face on the anterior femurs, is the spider that could be most easily mistaken for a *Poecilotheria* spider that closely resembles the Sri Lankan species *P. fasciata*. It is also highly likely that Annandale, using either the species

keys contained in Pocock (1899, 1900b), would have only examined the Indian examples of the genus and is unlikely to have considered the Sri Lankan fauna. As an aside, Annandale's, Rameswaram Island specimen was examined a second time in 1915 by Mr F. H. Gravely, the new Assistant Superintendent of the Indian Museum, who also concluded that the specimen was *P. striata*. Unfortunately when I sought to examine this specimen in September 2001, it was found to be missing from the Indian Zoological Survey collection and it is now conceded that the specimen was probably lost in the 1943 Calcutta floods.

The third reference to a new *Poecilotheria* spider in the extreme south of India – and one that again raises the prospect of a distinct similarity between it and *P. fasciata*, can be found in Pocock (1899). "Up to 1885, the genus *Poecilotheria*, with its supposed single species *fasciata*, was considered peculiar to the island of Ceylon. In that year, however, Simon recorded the occurrence of the species from Ramnad, in the Madura district of S. India (Bull. Soc. Zool. France, 1885, p38)." Pocock was to add, "Touching the accuracy of this determination, it is permissible to have doubts; nevertheless the discovery that the genus is not confined to Ceylon was important".

Simon's Ramnad specimen is also of great interest in that he chose this spider – a specimen, which he believed to be *P. fasciata* - as the generic type specimen of his new genus *Poecilotheria*. This was found to be necessary, when Simon discovered that the original genus name *Scurria* C. L. Koch, 1850, had been occupied by a mollusc genus since 1848.

With this mounting body of evidence before me, I concluded that it was highly likely that a new *Poecilotheria* (**Plate 1**), closely linked to *P. fasciata*, was distributed south of Madurai and that there was a possibility that this was the same spider collected in 1993 by Charpentier.

In December 2003 Paul Carpenter and myself, accompanied by Mark Carpenter and Jackin Jayaram, drove through much of southern Tamil Nadu and surveyed the old Ramanad subdivision in search of the new species. On finding the spider at three separate sites, nearby and to the south of Ramanathapuram, we drove in a wide arc north, first to Madurai and then on to Pondicherry, mapping and working out the likely range of this new species.

In order that a description of the new spider could be undertaken, two specimens of *Poecilotheria hanumavilasumica* were collected from the two main colonies in the region. The holotype, a mature female was collected from the Hanumavilasum Temple Plantation (**Plate 2**) and the female paratype was collected from the Sundavamada Plantation at Mandapam. The Hanumavilasum Temple Plantation, in particular was to prove to be such a unique and rich habitat site that the author and Paul Carpenter have undertaken the preparation of a proposal – which strongly argues that the area should be conserved as a Tiger Spider Sanctuary.

**Plate 1**: *Poecilotheria hanumavilasumica* n. sp. - mature female.

**Plate 2**: Hanumavilasum Plantation.

**Methods**
All specimens used in this study were drawn and dissected in the entomology department of the BMNH using a Leica binocular microscope. The specimens were drawn to scale using technical drawing callipers – which was also the method by which measurements were obtained. All measurements are in mm. Collections: BMNH = Natural History Museum London, United Kingdom.

Specimens collected in the field were initially frozen and then placed in surgical spirit. On arrival in the UK they were then transferred at the BMNH to 80% alcohol.

The spelling of all Indian place names in this paper are based on the spellings used in the Lonely Planet Road Map, which is by far the best map that the author has been able to secure.

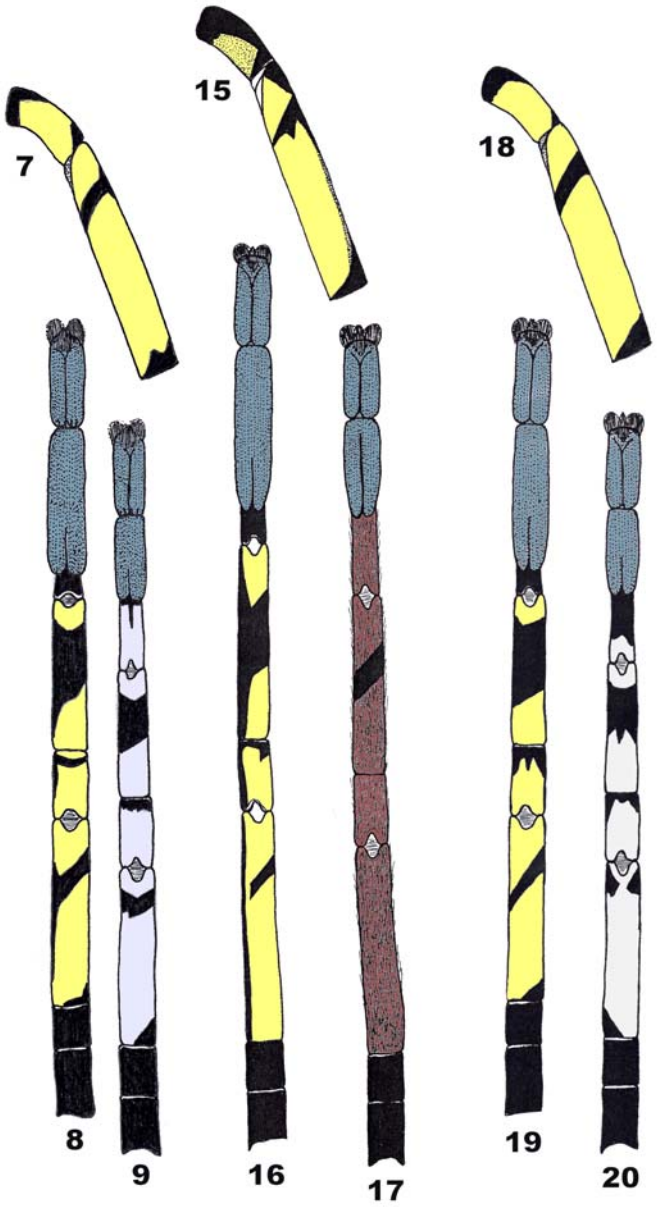
**Taxonomy**

***Poecilotheria hanumavilasumica* sp. n.** (Figures 1-17)
*Poecilotheria fasciata*: Simon, 1885: 38 (misidentification).
*Poecilotheria striata*: Annandale, 1907: 215 (misidentification)
*Poecilotheria striata*: Gravely, 1915: 280 (misidentification in part).

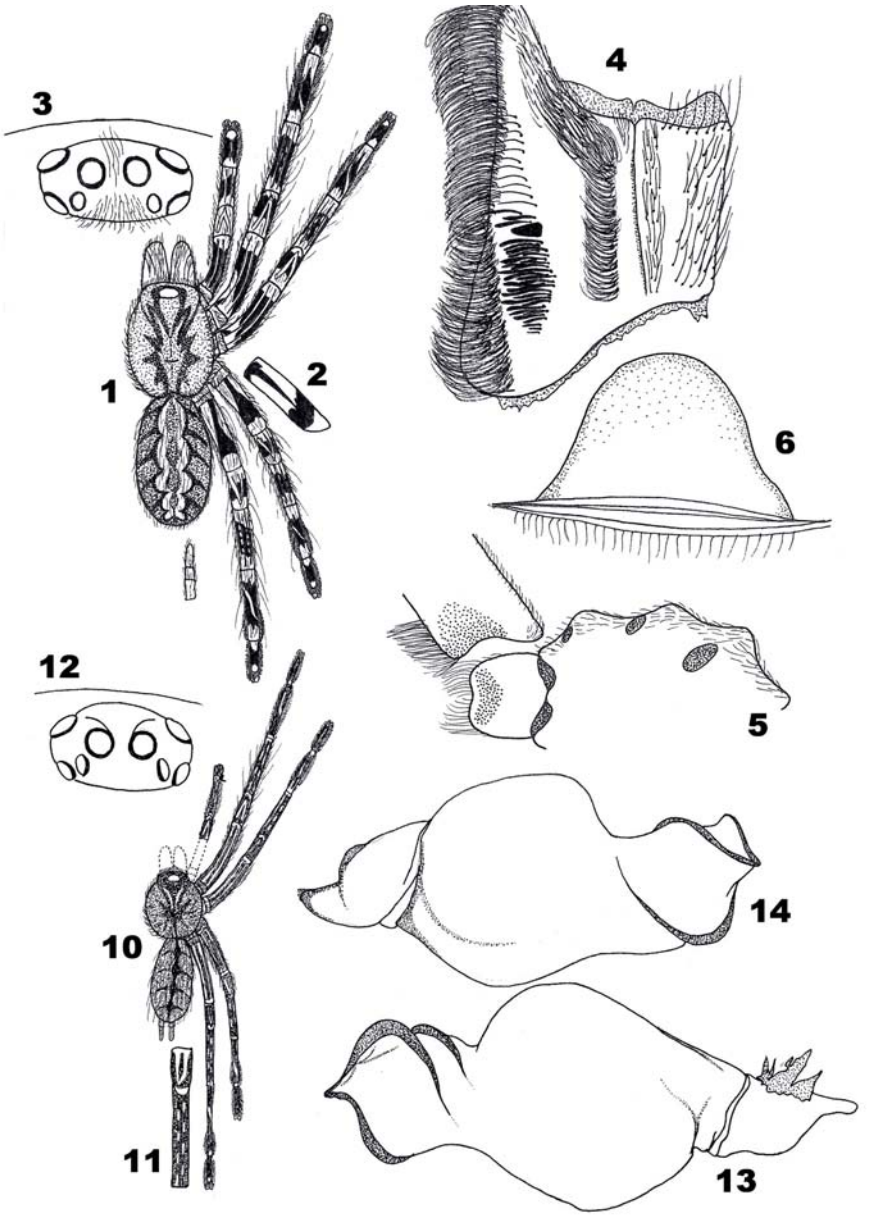
**Type material.** Holotype. BMNH. Female - collected by Andrew Smith and Paul Carpenter 25 November 2003 on the Hanumavilasum estate: Aneyamkunde Devastanam Temple Trust – Southern India. Paratypes. BMNH. Male – one specimen collected by Philip Charpentier October/November 1993, Southern India, damaged – possibly partly consumed by female. One female collected by Charpentier, Southern India. One female collected by Smith/Carpenter, 23 November 2003, Sundavamada Plantation; Mandapam – Southern India. To be deposited at the Zoological Survey Collection – Calcutta.

**Etymology**. The spider is named after the Hanumavilasum plantation - a sacred grove of Tamarind trees in which the local deity, Muneeshwarankovil, has a small temple. It is believed that Charpentier originally intended to call the spider '*hillyardi*' and I myself initially intended to name it '*kirki*', after my dear friend Peter Kirk. After some deliberation, Peter and myself have concluded that as this species may become a symbol for the conservation of this rare and beautiful genus, the new species should be firmly linked to the local community, which we hope will be entrusted with its guardianship.

**Diagnosis**
The new species *Poecilotheria hanumavilasumica* fits into a group of *Poecilotheria* spiders, which can be readily distinguished from all other *Poecilotheria* spiders by the distinct daffodil yellow colouration of the prolateral face of the femur, patella and to a lesser extent tibia of the anterior legs. In India, this group is made up of *P. regalis* Pocock, 1899 and *P. striata* Pocock, 1895 and in Sri Lanka consists of the single species *P. fasciata* (Latreille, 1804). The new species can be readily distinguished




**Figs. 7-9:** *Poecilotheria hanumavilasumica* n. sp. Holotype ♀ 7 p.l. femur I; 8 ventral leg I; 9 ventral leg IV. Paratype ♂ 15 p.l. femur I; 16 ventral leg I; 17 ventral leg IV.
**Figs. 18-20:** *Poecilotheria fasciata* BMNH 98-11-19-1 ♀ 18 p.l. femur I; 19 ventral leg I; 20 ventral leg IV.




**Figs. 1-14:** *Poecilotheria hanumavilasumica* n. sp. Holotype ♀: 1 dorsal view; 2 r.l. femur IV; 3 ocular tubercle; 4 maxilla showing stridulation organ; 5 labium, sternum and maxilla; 6 spermathecae. Paratype ♂: 10 dorsal view; 11 patella and tibia IV dorsal view; 12 ocular tubercle; 13 r.l. palpal bulb; 14 p.l. palpal bulb.

from the Indian species of this group by the narrow black band on the prolateral face of femur I. and the corresponding narrow black band on the ventral surface of this segment. In *P. regalis* and *P striata* this marking takes the form of a wide black band. *Poecilotheria regalis* can also be readily distinguished by the presence of a creamy white sub-abdominal band. *Poecilotheria hanumavilasumica* is closely related to the Sri Lankan species *P. fasciata*, but can be distinguished by the presence of a narrow black apical band on the ventral surface of femur IV. In *P. fasciata* this marking is fragmentary and limited to two small patches at the apical end of the segment. The two spiders can also be distinguished by the differences in colour of the ventral surface of the posterior legs, which in *P. hanumavilasumica* are a distinctive pale lilac/violet and in *P. fasciata* a pale grey/blue.

Illustrations of legs I and IV from *P. hanumavilasumica* (Figs. 7-9, 15-17) and *P. fasciata* (Figs. 18-20) are provided for comparative purposes.

**Female holotype** (Fig.1): Total length, including chelicerae but excluding spinnerets, 68. Carapace – caput profile low, length 27, width 21. Ocular tubercle (Fig. 3) length 2.3, width 4.5. Clypeus moderately wide. Foveal groove, shallow and transverse. Chelicerae length 10. Abdomen length 31, width 18. Sternum (Fig. 5) with two pairs of oval marginal sigilla and one pair of large posterior submarginal sigilla. Labium with dense small granules *c.*100. Maxilla with dense small granules *c.*100+. Paired labiosternal depressions present on labiosternal suture. Maxilla of pedipalp (Fig. 4). 2/3 rows of a line of approximately 22 tapering stridulating lyra/setae on the prolateral face of the maxilla. A single black tubercle is present on the anterior edge of the lyra. These lyra/setae act against 3 rows x18/20 moderately long straight strikers on the retromargin of the cheliceral furrow.

Leg and palp segment lengths in table 1. Spines absent on all prolateral and retrolateral faces of the leg segments. 3-4 inferior spines on the metatarsi of legs III-IV. Tarsal scopulae: palp and legs I-II integral or part divided: legs III-IV integral or part divided – not by setae. Tarsal and metatarsal scopulae of legs I-II well developed relative to legs III-IV. Metatarsal scopulae: legs I-II, 90% integral; leg III, 75% integral and leg IV, 50%, divided by a line of stiffened setae. Spermathecae: (Fig. 6) a simple fused conical seminal receptacle typical of the genus.

| | Femur | Patella | Tibia | Met. | Tarsus | Total |
|---|---|---|---|---|---|---|
| **Palp** | 14 | 7 | 9 | --- | 10 | 40 |
| **Leg I** | 21 | 11 | 17.5 | 17 | 10 | 76.5 |
| **Leg II** | 19 | 11 | 14 | 15 | 10 | 69 |
| **Leg III** | 5.5 | 8.5 | 11 | 13 | 10 | 58 |
| **Leg IV** | 18 | 9.5 | 14.5 | 17 | 10 | 69 |

**Table 1:** Leg and palp lengths of *P. hanumavilasumica* sp. n. - female holotype.

Colour – dorsal surface. (Fig. 1) The colouration of this spider is typical of the genus with black, white and grey cryptic markings over its body and legs. As with *P. fasciata, P. striata* and *P. regalis* the prolateral face of the femora of legs I-II have a bold splash of daffodil yellow. The carapace has a dark median line, which encompasses the ocular tubercle and foveal groove. Within this dark band there is a central white core with two distinctive radiating white lines on the edge of the caput area. The edges of the thick black median line can range from foliate curves to a starburst effect. The remainder of the carapace is grey/white. Abdomen: the abdomen displays the markings typical of the genus with a foliated median line and 6/8 pairs of chevrons. In some specimens the abdomen is dark enough to make it difficult to discern the chevrons. Legs: the dorsal markings on all four legs are very similar and would seem to be identical to *P. fasciata***.** The femora of legs I-II are lighter proximally and grow darker for three quarters the length – legs III-IV this marking takes the form of a distinctive black flared ornamentation. A reverse tapering flair (Fig. 2) is distinguishable on the retrolateral face of femur III-IV. There is a pale white/grey band distally on the apex of the femora. The patellae of all legs are light grey proximally and distally with black midsections – with the exception of the patella of the palp. The tibiae are also light grey proximally and distally with black midsections. The tibiae are also divided by two striating lines and two parallel lines of small pale spots. The metatarsi are pale grey proximally and distally with wide black midsections and distinctive pale slashes. The prolateral surfaces of femur I-II (Fig. 7) have a black diagonal band distally and the same distinctive daffodil yellow as in *P. fasciata*.

Ventral surface (Figs. 8-9): Legs I-II are virtually identical. The dominant colour on the femur, patella and tibia is daffodil yellow, with dividing black lines of varying degrees of width. The femur is yellow with a small patch of black at its basal end and a diagonal black band around three quarters distally. The patella is mostly yellow with an irregular black band distally. The tibia is predominantly black with a yellow band proximally and distally. The layout of the black bands on legs III-IV (Fig. 9) is similar to the anterior legs but the key colour is not yellow, but a very distinctive and very beautiful pale lilac/violet bloom. This is very different from *P. fasciata,* which has a pale blue/grey colouring on the underside of its rear legs. Note the complete black band, three quarters distally on the underside of the femurs III-IV, and the pale colour of the basal half of the metatarsus are of diagnostic importance. The underside of the cephalothorax is chocolate brown with foxy brown setae.

**Male paratype** (Fig. 10): Specimen damaged, missing chelicerae and palpal coxa, trochanter and femur. Total length, excluding chelicerae and spinnerets 37. Estimated length 43. Carapace profile low, length 16 width 13.5. Abdomen length 21, width 10. Foveal groove narrow and transverse. Ocular tubercle (Fig. 12) length 1.5, width 3. Clypeus moderately wide. Chelicerae, sternum and labium

damaged. Palpal bulb (Figs. 13, 14) a large pyriform bulb with stout embolus that has a lipped apical keel that divides into two curved keels that spiral over the dorsal face. A single spiral keel is on the ventral face of the embolus. This is very similar to the bulb of *P. fasciata* – a possible difference being that the dorsal keels on the embolus are more widely spaced on the embolus of the new species. A much larger sample of specimens would be needed to confirm this observation.

| | Femur | Patella | Tibia | Met. | Tarsus | Total |
|---|---|---|---|---|---|---|
| **Palp** | ** | 6 | 10 | --- | 3 | ** |
| **Leg I** | 17 | 8 | 14 | 14 | 9.5 | 62.5 |
| **Leg II** | 15 | 7 | 11.5 | 11.5 | 9 | 48.5 |
| **Leg III** | 12 | 6 | 10 | 11.5 | 8 | 47.5 |
| **Leg IV** | 15 | 6 | 13 | 17 | 8 | 59 |

**Table 2:** Leg and palp lengths of *P. hanumavilasumica* sp. n. - male paratype. **damaged.

Colour – dorsal surface. Dorsally the male is representative of the genus, being a uniform mossy brown with subdued markings on both the body and legs. Note the striating lines (Fig. 11) on the leg of the male can be more discernable than the distinctive cryptic markings that are found on the legs of the female. The abdomen has a dark median line, divided by distinctive diamond-shaped junctions and chevrons.

Ventral surface (Figs. 16, 17) – the markings on the underside of legs I-II are similar to the female, but considerably elongated. The ventral surfaces of legs III-IV, as is common (but it should be noted, not always the case) with *Poecilotheria* males, are uniform brown with a weak black bar on the tibia.

**Taxonomic discussion**

The new species *Poecilotheria hanumavilasumica* is very closely related to the Sri Lankan species *P. fasciata* (Latreille, 1804), which is widely distributed throughout the dry acacia grassland forests north of the island's capital Colombo, but which may or may not be distributed in the Jaffna province north of Elephant Pass and on the Adam's bridge causeway – linking Sri Lanka to southern India.

*Poecilotheria hanumavilasumica* would appear to have little in common with either *P. rufilata* Pocock, 1899, which can be found in the Agastya Malai Hills, 160 kilometres to the south east of the Ramanad area, or *P. formosa* Pocock, 1899 whose range begins 180 kilometres north east in the Kambam valley, which is on the lower foothills of the eastern face of the Western Ghats.

The first impression that one has of this spider when examining its dorsal aspect is that it is very closely allied to *P. fasciata*, with only small variations on the black-and-white fluting on the carapace and on the distinctive foliate abdominal markings. All of which, are typical of the spiders of the genus *Poecilotheria.* On the dorsal surface the only distinctive and consistent difference is the width of the clypeus. In *P. fasciata* this gap is narrow while in *P. hanumavilasumica* the gap is moderately wide.

The key diagnostic difference between these two closely related species can be found on the ventral surfaces of legs I & IV and particularly on the ventral face of the femur of leg IV. On both species a narrow black patch can be found proximally on the basal edge of the femur – but distally, at approximately three quarters of the length of the segment, a distinctive unbroken black band (Fig. 9) can be found in *P. hanumavilasumica*. In all adult specimens of *P. fasciata* in the BMNH and my own collection this black marking (Fig. 20) is fragmentary and limited to two small black patches at the apical end of the segment. It will also be noted that the basal half of the metatarsus IV (Fig. 9) of *P. hanumavilasumica* is pale with a short black medial line, while in *P. fasciata* (Fig. 20) it is dark. Another key feature of the ventral surface of legs III-IV is the distinctive difference in colouration between the two species. In *P. hanumavilasumica*, the underside of the rear legs has a beautiful lilac/violet bloom. *Poecilotheria fasciata,* in contrast has the distinctive pale blue/grey colour that one associates with this spider.

**Distribution and conservation status**

At present only two previous ecological field studies have been undertaken on the genus *Poecilotheria* (Smith *et al.*, 2001; Smith *et al.*, 2002). Bearing this in mind, the author and Carpenter concluded it would be desirable to undertake a review of the range of the new species and carry out a survey of the collection site of the holotype and note any interesting aspects of behaviour. Two papers dealing with these issues are in preparation.

We located *Poecilotheria hanumavilasumica* sp. n. in three different locations in the Madurai region, in what would have been the old Ramanad subdivision. Much of what we did entailed driving through the region interviewing numerous palm workers, firewood collectors and scrub forest labourers – in order to work out a crude indication of the range of the spider based on the visual recognition of a picture and a scaled plastic model of *P. fasciata*. We also took the opportunity to enquire about local names, folklore, attitudes towards the spider and if it was viewed as venomous – before recording the participant's name and home village and photographing him. In all of this my Indian researcher, Mr Jackin Jayaram, was to prove a resourceful and invaluable aid. Note this method of collating data was also undertaken in a similar fashion, in 2002 in the Trivandrum/Karala region when researching the distribution of *P. rufilata*.

The occasional positive, but mainly negative response to the image indicated that the spider is now very rare and has only a patchy distribution in the highly cultivated Madurai area with increasing recognition as we approached the Ramanathapuram/Ramnad district. The spider was widely recognised by palm workers in the palm plantations outside Ramanathapuram – one specific site east of the town being strongly associated with this spider. A second site was discovered further south at Mandapam, in the large commercial Sundavamada Plantation: the owner of which, Mr Abdul Rahman Mavikkan proved to be fascinated by the spider and assured us that no white foreigners would be allowed to disturb or collect them for the pet trade. The third colony, the Hanumavilasum Plantation proved to be the largest *Poecilotheria* colony that has been located to-date – with an estimated population of 600-800 spiders. The site covers 60 acres and is made up of 1000, numbered deciduous trees, a large percentage of which are over 80 years old. The site is so vulnerable to exploitation and yet so extensive, and offering such potential for future scientific research, that Paul Carpenter, Jackin Jayaram and myself immediately decided that we would strive to establish it as the first Tiger Spider Sanctuary. With this in mind and with the support of the BTS, we have begun the preparation of a proposal to both the Zoological Society of London and to an important Indian conservation group to discuss the feasibility of such a project. I am delighted to say that the initial response has been very positive and will probably hinge on our ability to raise funds. The area in which the spiders are concentrated is a holy site and the Temple Authorities have again assured us that the site will be forbidden to white foreigners. The caretakers have been instructed to detain trespassers and immediately inform the local Forestry Office. Mr T. Fitzgerald of Fitzgerald Publishing has also sportingly agreed to offer an award to the caretakers of £200 for the successful detention of interlopers and their conviction of trespass before the local magistrate. Not that the author considers it likely that any responsible European trader-breeders - all of whom have expressed support for the project, would be interested in investing money in collecting and breeding a spider that so closely resembles *P. fasciata*. Many key people in the hobby, both in the Societies and the Trade would also regard any collecting of this spider from the proposed sanctuary with anathema and it is likely that any maverick who attempted to do so would become a cursed thing in a very small hobby. The Hanumavilasum Temple Plantation is off limits to all collecting - although in the future we see rich possibilities for the local Temple Guardians in photographic tours and eco-tourism. At present the site is closed and we would ask all hobbyists and traders to honour what is hopefully going to be an international effort by the Societies - hand-in-hand with a key organisation within the Indian conservation lobby - to create something that tarantula enthusiasts the world over can be proud of.

We also took the opportunity to examine the historical collection site on Rameswaram Island and noted with grave concern that it is unlikely Annandale or Henderson would recognise what was, a century ago, an ancient temple complex

and thriving fishing community. Due to terrorist gunrunning, the Panban fishing fleet is strictly limited by the Indian navy to its home-waters - the subsequent poverty and deprivation has meant that much of the old acacia scrub forest has been pollarded and cleared for firewood and large areas grubbed-up for palm plantations. In two days of searching on the island, we did not find a single spider in the acacia scrub and only rarely found groves of mature *Acacia arabica* trees that had not been pollarded. The spider was recognised by the local people, but is now considered very rare in the acacia scrub on the island and would appear to be limited to occasional sightings by palm cutters in the commercial palm plantations.

In 1907 Annandale wrote of the Ramanad region – "the Babal thorn (*Acacia arabica)* covers a considerable area and there are large groves of coconut and Palmyra palm…. and in some places the poorer cereals are cultivated when the rains occur". Now, a century on, many thousands of acres of acacia scrub have been cleared, irrigation schemes implemented and paddy fields excavated to cultivate rice. Much of this production is still limited to the monsoon period, but huge irrigation projects are in progress, which includes laying a water pipe along the entire length of the A45 Highway. Such projects, welcomed by the local people in a region that is considered very poor, has meant that many thousands of acres of *Acacia arabica* have now been cleared for agricultural use. It is unlikely that the conservation of a spider, which is considered vermin by the majority of the people, would be considered in any sympathetic appraisal of the need to conserve and protect large tracts of the Babal/acacia thorn scrubland.

We may conclude that *Poecilotheria hanumavilasumica* sp. n. has now only a very patchy distribution north of Ramanathapuram and is gravely threatened by extensive rice production and the construction of paddy fields and new irrigation schemes, which have cleared large areas of the indigenous acacia scrub forest. South of Ramanathapuram the region is primarily poor, salt ladened soil which, although increasingly under-threat by new irrigation schemes, is still primarily a historic combination of large-scale palm plantations and Babul acacia thorn forest. In this region, previously referred to in British India as the Ramanad subdivision, we located three sprawling colonies at Ramanathapuram, Mawdapam and the Hanumavilasum site – the location of which, at present is confidential. All of these colonies are associated with abandoned deciduous forest or neglected tracts of mixed dry forest – closely linked with irrigated, commercial palm and tamarind plantations. The close proximity of these woodlands to commercial plantations and the fact that the remnant scrub forest was within the fenced cultivated areas, we believe, gave them some protection against local firewood collection and the inevitable detrimental pollarding that this entails.

Nevertheless, these sites are very vulnerable to any change in local land use and a

concerted effort is now in progress to establish the Hanumavilasum site as the first Tiger Spider Sanctuary. A detailed proposal for the conservation of the site is being prepared for the Zoological Society of London and apart from two scientific papers in preparation - a BTS report summarising the Smith/Carpenter/Jayaram survey of the Hanumavilasum site will be published shortly.

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